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ABSTRACT

Findings of a study that evaluated a five-state minority leadership program, the Southeastern Minority Trainer of Trainers Program, are presented in this paper. The Minority Leadership Development workshops were conducted from July 1991 to January 1992 in Alabama, Arkansas, Georgia, Mississippi, and Tennessee. The project goals were to facilitate leadership development among a predominantly African-American population in the region and to determine effective methods for leadership training. A total of 741 workshop participants completed two instruments: a Workshop Participants Survey (WPS) that was administered at the beginning, and a Leadership Attributes Inventory (LAI) administered at the end of the workshops. Factor analysis of the data was compared to an earlier study (Liang, 1990) conducted in Minnesota. In the southeastern sample, the management skills factor accounted for the greatest amount of variance, whereas the social skills and characteristics factor accounted for the most variance in the Minnesota sample. The findings raise questions whether differences between factors are related to differences between individual and leadership expectations or to regional/cultural differences. Ten tables and two figures are included. (LMI)

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Minority Leadership Training:
Evaluation and Analysis of a Five-State Program
An Interim Report

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Program Background

The Southeastern Minority Trainer of Trainers Program has its origins in a workshop series developed in Virginia in 1985. Known as the Minority Leadership Development Workshops, the staff of the Center for Volunteer Development (now Institute for Leadership and Volunteer Development) at VPI&SU, conducted these workshops over a two-year period.

Based on the success of these workshops with African American leaders, the W.K. Kellogg Foundation has provided funding to replicate the Virginia model, over a three-year period, in the states of Alabama, Arkansas, Georgia, Mississippi, and Tennessee. Oscar M. Williams is the principal investigator.

This is an interim report of data collected during leadership development workshops held in July, 1991 - January, 1992. The results have been reported for the five states as a group because the number of workshops varied widely from state to state during this period. Workshops will continue until a "critical mass" of 6750 - 8750 participants has been trained in the five states combined. The project staff anticipates achievement of this goal by August/September, 1992. Data are derived from two instruments: (1) Workshop Participant Survey (WPS) (VPI&SU, 1991) and (2) Leadership Attributes Inventory (LAI) (Moss, Johansen & Preskill, 1991).

Program Implementation

Faculty members from each state's land-grant university or universities, experienced in the area of leadership education, are conducting the leadership development workshops. These individuals, known as state directors, have been trained and continue to be supported by the project staff at VPI&SU. The program has two objectives:

1. To replicate the Virginia Minority Trainer of Trainers model. The model consists of three phases: (a) the Workshop Phase, (b) the Capstone Phase, and (c) the Refresher Phase.
 - a. The Workshop Phase - Each state is currently conducting a series of 8-10 hour workshops, using materials and methods developed by VPI&SU staff. The workshops are open to anyone who wishes to participate; however, leaders from organizations in each community are contacted during the organizational stage of each workshop.

- b. The Capstone Phase - Upon completion of each state's workshop phase (August/September, 1992), the state directors will identify 100 workshop participants (combined total = 500) who have demonstrated their ability and willingness to train others in their communities. These individuals will complete a three-day capstone workshop (one per state) designed to enable them to train others, using the Virginia model. Each will receive formal certification as a "Trainer of Trainers" from that state's land-grant university or universities participating in the program.
 - c. The Refresher Phase - Approximately six months after completion of the capstone workshop, the 100 capstone participants in each state will participate in a two-day refresher workshop designed to enhance their skills. The design of this workshop will incorporate suggestions made by the participants, based on their experience in the field.
2. To develop a database containing the following information about the program's workshop population: (a) gender, (b) education, (c) marital status, (d) age, (e) race/ethnicity, (f) location of residence, (g) number of children, (h) income, (i) occupation, (j) leadership involvement (type of organization), (k) leadership history, (l) leadership perception, (m) political participation, and (n) leadership attributes.

Instrumentation

Early discussions by the project staff resulted in the following decisions:

1. To collect data from all workshop participants rather than a representative sample. The estimated number of participants in the workshop phase ranges from 6750 - 8750.
2. To collect change data at both the capstone phase and refresher phase (N=500).
3. To develop a survey (WPS) to include all variables listed previously, except leadership attributes.
4. To administer the Leadership Attributes Inventory - Self-Rating Form (LAI) (Moss, et al., 1991).

The following outlines the process used to develop the Workshop Participant Survey (WPS). The rationale for use of the LAI (Moss, et al., 1991) is discussed on p. 13.

1. Project staff met with 12 of the certified Trainer of Trainers who had completed the original program in Virginia. This group suggested variables for inclusion in the survey instrument (WPS).
2. A survey was developed and mailed with a self-addressed, stamped envelope, to a group of Virginia Trainer of Trainers (N=42), containing the original 12 and 30 others. The LAI (Moss, et al., 1991) was also mailed to this group. Respondents were asked to use machine readable answer sheets for both instruments and on a separate form, to suggest additional variables and to relate any difficulties they experienced with individual questions and/or instructions. The cover letter explained the purpose of the survey as it related to the five-state project and a guarantee of confidentiality. Fifty-five percent (55%) returned both instruments and no one reported difficulties with the instructions. All instruments returned were completed according to instructions given. Further, there were a number of positive comments regarding individual experiences with the Virginia program and expressions of support for the current, five-state program. One respondent reported a concern regarding possible sensitivity to the income question, but answered the question and stated an understanding of the reason for including it in the instrument. Other respondents suggested alterations to the instructions relating to three groups of questions.
3. The project staff used these suggestions during the development of the WPS sent to the state directors. The state directors were trained to administer the instruments by the project administrator, a member of the VPI&SU project staff. Confidentiality is guaranteed by: (1) the use of a unique, five-digit ID# assigned to each workshop participant and (2) the return of all data to VPI&SU for coding and analysis.
4. Early results indicated two problems: (1) the WPS took too long to complete and (2) many respondents had difficulty using the machine readable answer sheets. As a result of this experience, the project staff substantially revised the WPS as follows:

- a. The answer sheets have been eliminated for both instruments. Workshop participants now circle the appropriate response directly on the instrument. State directors mail the completed instruments to VPI&SU where data are recorded on machine readable answer sheets.
- b. Many questions were eliminated, a few were added, and the occupations section was expanded (WPS). The LAI (Moss, et al., 1991) was not changed.
- c. The new version of the WPS has been in use in all five states since January, 1992.

The combined result of: (a) the changes made to the WPS, (b) the short-term use of the new version, and (c) the lengthy "start-up" time in two of the five states has produced a short-term problem that affects the data presented in this report. Sample sizes vary widely between states and therefore, the authors have chosen to report the results to date for the five states combined, rather than make any comparisons between individual states. Also, the addition of several new questions on the new version of the WPS has resulted in a small number of responses to those questions as compared to the total number of responses to questions contained in both the original and new versions. These problems will be eliminated as "new WPS" data are received throughout the coming months from each of the five states.

Descriptive Profile

The participants who have completed the workshop phase of the five-state program to this point in time tend to be: (a) female (62.2%), (b) have a high school diploma, GED or greater (67.7%), (c) single (never married), divorced, separated, or spouse deceased (57.9%), (d) over 25 years of age (67%), (e) African American (96.3%), (f) residents of small towns or rural areas (77.4%), (g) parents with two or more children (80.7%), and (h) earning incomes of \$20,000 or less (55%). The most frequent occupations reported are education (bachelor's degree or higher required, 27.9%), human services (13.2%), owner of small business or farm (11.7%), and clerical/secretarial (10.9%). Slightly less than seventy percent (69.8%) are registered to vote and 64% voted in the 1988 election for President of the United States. (see Appendix A, Tables A-1 - A-10).

Demographic Variables in Relation to Leadership. The WPS contains several variables pertaining to leadership as follows: (a) community betterment, (b)

organization involvement, (c) officer total, (d) type 1st, (e) influence, (f) leader you, and (g) leader other.

Response categories for the community betterment, organization involvement, and officer total variables are stated as a list of eight types of organizations: (1) community clubs, (2) church-related, (3) sports/recreation, (4) youth groups, (5) political organizations or civil rights campaigns, (6) professional organizations, (7) civic organizations, and (8) fraternal orders. Respondents are asked to rate: (a) the importance of each of the eight types of organizations (community betterment variable), (b) their level of involvement in each of the eight types (organization involvement variable), and (c) their length of service as an officer in each type (officer total variable).

The "type 1st" item asks respondents to select the type of organization with which they first became involved. Again, the same eight types of organizations are listed. The influence item asks respondents to identify the person (from a list of categories) who influenced them to become involved in that type 1st organization. The leader you and leader other variables reflect respondents' perceptions of themselves as leaders and whether or not they think others perceive them to be leaders.

A complete analysis of the leadership data has not been included in this report due to the small sample size of some variables, a result of the conversion from the original to the new version of the WPS. Several items of interest emerge however, that can be reported at this time.

1. Community betterment - Respondents who selected, "very important" for each of the eight organization types did not differ from the sample profile.
2. Organization involvement - Respondents who reported being "regularly involved" with the same eight types of organizations differed from the sample profile as follows:
 - a. Sports/recreation - Those who responded to this item were predominantly male (57.53%), single, never married (65.05%), and under 25 years of age (62.37%), with incomes of \$10,000 or less (40.79%).
 - b. Political organizations and civil rights campaigns - Three age groups showed equal percentages of involvement: 31-40 years, 41-50 years, and 51-60 years (22.12% respectively).

- c. Professional organizations - The dominant marital status group was divorced, separated, or spouse deceased (44.44%) and the most frequently selected age range was 31-40 years (66.67%).
 - d. Civic organizations - two age groups showed close percentages of involvement: under 25 years of age (23.94%) and 31-40 years of age (23.24%).
 - e. Fraternal orders - three age groups showed equal percentages of involvement: 31-40 years, 41-50 years, and 51-60 years (33.33% respectively).
3. Officer Total - Respondents were asked, "If you have been elected or appointed to an office in any of the following types of organizations, how long have you served?" Respondents did not differ from the sample profile, but the length of service as an officer did vary between groups.
- a. Community clubs (29.41), Sports/recreation (16.67%), Civic organizations (22.22%), and Fraternal orders (14.29%) - Officers had served for 1-2 years.
 - b. Church-related organizations - The highest percentage of officers (34.21%) had served for more than 5 years.
 - c. Youth groups - The highest percentage of officers (13.51%) had served for 3-5 years.
 - d. Professional organizations - The highest percentage of officers (11.76%) had served for less than 1 year.
 - e. Political organizations - The highest percentage of officers (8.57%) had served 2 years or less.
4. Type 1st (item #53) - In which type of organization did you first become involved? - The same eight organization types were used for this item as with previous items. Regardless of characteristic, more than fifty-five percent selected the church-related response on this item. The remaining responses were spread among the other seven organization types.

5. Influence (item #54) - Who influenced you to become involved in the organization type that you selected in item #53?. Response categories are: (a) adult leader of youth group, (b) sunday school teacher or other religious leader, (c) leader of political organization or civil rights campaign, (d) school teacher, administrator, or counselor, (e) friend of similar age, (f) parent or other family member, (g) interested adult or mentor, (h) leader of fraternal order.
 - a. Gender - Males selected parent or other family member most frequently (40%). Females selected sunday school teacher and friend equally (30.43%).
 - b. Marital status - Married respondents selected sunday school teacher or other religious leader and parent or other family member equally (28.57%). Divorced, separated, or spouse deceased respondents selected friend of similar age (42.86%). Single, never married respondents selected sunday school teacher or other religious leader, friend, and parent or other family member equally (33.33%).
 - c. Age-range - The dominant age range of respondents to this item was 31-40 years and of these, 33.33% selected friend of similar age.
 - d. Location of residence - More than seventy percent (72.73%) of respondents were residents of small towns and of these, 29.17% selected friend of similar age.
 - e. Income - Two groups included a majority of respondents: (1) \$10,001-\$20,000 (28.13%) and (2) \$20,001-\$30,000 (37.5%). In the first group, 44.44% selected friend. In the second group, two categories received 25% each: (1) sunday school teacher or other religious leader and (2) parent or other family member.
6. Leader you - Do you consider yourself a leader at either the community, state, or national level?
 - a. Gender - More men (52.88%) than women (46.33%) responded "yes" to this item.

- b. Marital status - More than forty percent (41.56%) of respondents were married and of these, 46.72% perceived themselves to be leaders. The next highest category was single, never married, and 40.12% of these respondents perceived themselves to be leaders.
 - c. Age-range - Most respondents to this item were under 25 years of age and of these, 43.85% responded "perhaps." The largest age group category in the total sample was 31-40 years and 58.11% of these respondents selected "yes" as their response.
 - d. Location of residence - Most respondents (52.71%) to this item resided in small towns and of these, 49.14% perceived themselves to be leaders.
 - e. Income - The largest earnings category responding to this item was \$10,001-\$20,000/year (31.35%) and of these, 57.75% perceived themselves to be leaders.
 - f. Education achievement - More than forty-eight percent (48.79%) responded "yes" to this item and of these, 62.67% held a bachelor's degree. The lowest percentage of those who responded "yes" (36.64%) had not graduated from high school. Slightly less than twenty percent (19.8%) responded "no" to this item and of these, 24.66% had not graduated from high school. Slightly more than twenty-two percent (22.86%) had an associate degree and 21.78% had graduated from high school only.
7. Leader other - Do others consider you a leader at either the community, state, or national level?
- a. Gender - More males (51.54%) than females responded "yes" to this item.
 - b. Marital status - More than fifty percent (53.40%) of the married respondents (the largest group) responded "yes" to this item.

- c. Age-range - The highest percentage of respondents to this item were under 25 years of age and of these, 31.91% responded "yes" and 50.58% responded "perhaps."
- d. Location of residence - More than fifty percent (52.66%) of the respondents resided in small towns and of these, 48.77% responded "yes."
- e. Income - No respondents who selected "Does not apply" to the income item thought others perceived them to be leaders. Fifty percent (50%) selected "perhaps" and the remainder selected "no." More than thirty percent (31.56%) of the respondents to the leader other item earned \$10,001-\$20,000/year and of these, 56.34% thought others perceived them to be leaders. The greatest percentage of those who selected "yes" to the leader other item (71.43%), earned \$40,001-\$50,000/year.
- f. Education achievement - More than forty-seven percent (47.75%) responded "yes" to the leader other item and of these, 62.86% had completed graduate work beyond bachelor's degree. Slightly more than thirteen percent (13.64%) did not think others perceived them to be leaders and of these, two groups were dominant: (1) those with an earned doctorate (18.52%) and (2) those who had graduated from high school only (18%).

Leadership Levels and Activities Toward Social Change

How do black leaders influence the communities in which they live? With which community-based organizations do they work in search of social change? What social change activities are they participating in or leading? Do they, after participating in the Southeastern Minority Trainer of Trainers Program, change in their assessed level of leadership? Do they, after participating in the Southeastern Minority Trainers of Training Program, change the organizations with which they work?

Baseline data include the assessed levels of leadership using the LAI (Moss, et. al., 1991) and reported levels of involvement with different types of community organizations. In the following table are shown crossbreaks depicting the baselines of these two variables.

Eight types of community organizations were used in the query of respondents' involvement. Church groups were the primary type of organization in which respondents reported regular involvement. Five hundred forty (73%) reported they were regularly involved in church-related groups. Two hundred thirty-four (32%) reported regular involvement in community clubs and 207 (28%) reported regular involvement in youth groups. One hundred fifty-seven (21%) reported regular involvement in sports/recreation groups, 132 (18%) reported regular involvement in civic organizations, and 102 (14%) reported regular involvement in political organizations or civil rights campaigns. Only 19 were involved at all (0.3%) in professional groups and only 11 (0.2%) in fraternal orders.

Table 1

Crossbreaks of Assessed Leadership with Involvement with Types of Community Organizations

n=741

| Organization | Frequency of Involvement | LAI mean | stan dev | Leadership Level | | F* |
|---|--------------------------|----------|----------|------------------|----|-------|
| | | | | n | % | |
| Community clubs | None | 7.75 | 1.48 | 223 | 30 | 20.51 |
| | Occasional | 7.88 | 1.58 | 284 | 38 | |
| | Regular | 8.30 | 1.41 | 234 | 32 | |
| Church-related | None | 7.96 | 1.50 | 89 | 12 | 18.56 |
| | Occasional | 7.66 | 1.57 | 112 | 15 | |
| | Regular | 8.02 | 1.52 | 540 | 73 | |
| Sports/recreation | None | 7.83 | 1.65 | 310 | 42 | 20.47 |
| | Occasional | 8.17 | 1.39 | 274 | 37 | |
| | Regular | 7.96 | 1.37 | 157 | 21 | |
| Youth groups | None | 7.78 | 1.43 | 276 | 37 | 21.51 |
| | Occasional | 7.79 | 1.71 | 258 | 35 | |
| | Regular | 8.42 | 1.18 | 207 | 28 | |
| Political organizations or civil rights campaigns | None | 7.64 | 1.58 | 397 | 53 | 22.80 |
| | Occasional | 8.22 | 1.35 | 242 | 33 | |
| | Regular | 8.45 | 1.24 | 102 | 14 | |
| Professional organizations | None | 7.75 | 1.78 | 722 | 97 | 16.76 |
| | Occasional | 8.58 | 1.17 | 11 | 2 | |
| | Regular | 8.68 | 1.11 | 8 | 1 | |

(table continued)

| Organization | Frequency of Involvement | LAI mean | stan dev | Leadership Level | | F* |
|---------------------|--------------------------|----------|----------|------------------|----|-------|
| | | | | n | % | |
| Civic organizations | None | 7.78 | 1.46 | 377 | 51 | 22.50 |
| | Occasional | 8.03 | 1.54 | 232 | 31 | |
| | Regular | 8.39 | 1.31 | 132 | 18 | |
| Fraternal orders | None | 7.93 | 1.63 | 730 | 98 | 20.02 |
| | Occasional | 8.60 | 0.81 | 6 | 1 | |
| | Regular | 8.53 | 1.47 | 5 | 1 | |

$F(2,738) > 3$ for $p < 0.05$

Measured levels of leadership on the LAI differed significantly across each level of involvement in all eight types of community organizations. For community clubs, political campaigns, and civic organizations, the mean of the leadership measure increased from no involvement to occasional involvement, and from occasional involvement to regular involvement. For youth groups, measured levels on the leadership measure were the same for no involvement and for occasional involvement, but both increased significantly from regular involvement. For professional groups and fraternal orders, occasional and regular involvement were greater than the mean for no involvement. For sports groups, leadership did not differ for no involvement and regular involvement, but both were lower than for occasional involvement. For church-related groups, leadership means for no involvement and regular involvement were not statistically different, but were higher than the mean for occasionally involved.

Future data collections will allow the testing of change in types of community organizations used by African American leaders and also, whether or not, training experiences result in higher levels of measured leadership. From the incidence of use of type of community organization, it is evident that African American leaders use a grassroots approach to community change.

Leadership Attributes

There are many definitions of leadership and at least some consensus that the term "leadership" is not synonymous with "management" or "administration." Gardner (1986) defines leadership as "the process of persuasion and example by which an individual (or leadership team) induces a group to take action that is in accord with the leader's purposes or the shared purposes of all." (p. 6) Many writers have attempted to distinguish "leaders" from "managers" and "administrators." Also, some

have confounded power, status, authority and similar terms with leadership. Gardner rejects the notion of clear lines between these concepts and proposes instead that leaders may possess greater or lesser quantities of status, authority, or power and that they may in fact, be involved to varying degrees in management and administrative tasks.

Minorities have traditionally been underrepresented in leadership positions in the public, as well as private sectors. Leadership development is one important approach to promoting increased access and success; however, little is known about leadership attributes that are "natural" or that may be culturally unique within minority groups. The present training and development project has a primary objective of facilitating leadership development among a dominantly minority (African American) population in five southeastern states. A secondary goal of the project, however, is to learn more about the extant leadership characteristics of the target group, the correlates of those characteristics, and, through evaluation, to understand better the training activities that facilitate growth in leadership competence. One of the activities critical to this second goal is the measurement of leadership, or more specifically, leadership characteristics or attributes.

Methods

Instrumentation. After extensive consideration of different instruments and approaches to this problem, the instrument, Leadership Attributes Inventory (LAI) (Moss, Johansen & Preskill, 1991), was selected for use in the project. While this instrument is still in the developmental stages, it has many characteristics deemed desirable for the present use. It is relatively brief (37 items), is carefully based on prominent research on leadership, and it incorporates a theoretical view of leadership that is compatible with the present project design. It has the obvious disadvantages of not having a long history of construct validation studies (although its development procedures and early studies provide evidence of construct validity and reliability) and it, like most other similar instruments, is untested among minority populations. Early studies by Liang (1990) and Moss, Johansen & Preskill (1991) indicate an average test-retest reliability coefficient of .78 for the "other" rating form of the instrument and correlations of .70 and .72 of the LAI with a separate measure of leadership effectiveness (Moss, Johansen & Preskill, 1991). The instrument in self-rating form was not particularly successful in measurement of gain in a pre-post treatment format due to high self-ratings on the pre-test. More satisfactory results were reported by Moss, Johansen & Preskill when the LAI was used in a retrospective pre-test format (1991).

Procedures. As described earlier, participants in the Minority Leadership Trainer of Trainers workshops were asked to complete two instruments. The first,

the Workshop Participant Survey (WPS) was administered at the beginning of each workshop and the second, the LAI, was administered at the conclusion of the workshop. It was hoped that administration of the LAI at workshop conclusion would help avoid the inflation of self-ratings experienced by Moss, et.al. in the pre-post format. The purpose for administration of the LAI in these workshops was to describe the current status of leadership attributes and their potential relationship to selected demographic, educational, and experiential variables, not to measure gain resulting from participation in the training.

Two basic analysis strategies were used to examine LAI responses. First, LAI means were calculated for selected sub-groups and were correlated with selected variables. Second, exploratory factor analyses were conducted in order to better understand the nature of self-rated leadership among the respondent sample. The findings from these analyses must be considered tentative since they are based on incomplete data derived during the early months of the project.

Findings

LAI Means. The mean LAI score for female respondents in the sample ($N = 453$) was 7.91 and for males ($N = 259$) was 8.01. Means of LAI responses by age were similar across age categories two through five encompassing ages 26 through 60 (8.57, 8.34, 8.39, and 8.31, respectively), but were lower for those individuals who were under 25 (Mean = 7.47, $N = 217$), and those over 60 (Mean = 7.39, $N = 113$). LAI means by location of residence were essentially the same for rural, small town, suburban, and urban residents. Income category also did not seem to affect LAI means since mean scores for persons from income categories 2 (Below \$10,000), 3 (\$10,001 to \$20,000), 4 (\$20,001 to \$30,000) and 5 (\$30,001 to \$40,000) were very similar. There were very low numbers of respondents in income categories 6, 7, and 8 so these categories were not considered in this analysis.

LAI means were correlated with the total number of organizations with which respondents had indicated either occasional or frequent involvement and with the total number of organizations in which they had served as an officer. There was a low correlation ($r = .20$) with number of organizations and essentially no relationship between LAI mean scores and number of organizations in which respondents had served as an officer ($r = .05$). Correlations of LAI means with item 55 on the WPS (Do you consider yourself a leader at the community, state or national level?) yielded a somewhat higher coefficient ($r = .24$) and the same was true when LAI means were correlated with item 56 on the WPS (Do others consider you to be a leader at the community, state, or national level?) which yielded a coefficient of $r = .28$.

Factor structure. Early conceptualizations of leadership attributes by project staff included two basic "components." First, it was felt that there may be certain personal characteristics that are either correlates of leadership or that predispose one to assuming leadership positions. Second, there may be things that one does or actions that one takes as a leader (referred to as leadership tasks by Gardner). Earlier factor analysis of the LAI on a dominantly white, adult sample in Minnesota (Liang, 1990) had revealed three factors which the author termed "Social skills and characteristics," "Personal characteristics," and "Management skills." Most of the variance accounted for by the factors in the Liang analysis was associated with the first factor (61.7%, Social Skills and Characteristics) with considerably less variance associated with factor two (5.6%, Personal Characteristics) and factor three (3.0%, Management Skills).

Preliminary analyses of the LAI responses of the present, dominantly African American, southeastern sample reveal both similarities and differences with the earlier upper Midwest, white sample results. It should be noted that the Minnesota respondents were rating an administrator of their choice while the present sample consisted of self-ratings. Also, the Minnesota sample responded to an earlier 35 item version of the LAI and used a five rather than 10 response option format. Even with these differences, however, there were similarities in the resultant factor structures.

The first stage of the present analysis was computation of Chronbach's Alpha which yielded an alpha of .97. This high figure, along with consistently high item-total correlations, indicated high internal consistency and the strong possibility of a single dominant factor (item-total correlations ranging from high .60s to high .70s). A principal components analysis with scree test verified this possibility with an eigenvalue of 18.80 on the first component, 1.47 on the second and 1.36 on the third.

The next stage of the analysis consisted of conducting a principal factor analysis in four steps using the Statistical Analysis System (1985) Factor subroutine. The first step set the minimum eigenvalue at 0 and used the squared multiple correlations (SMC) as the prior communality estimates. A scree test on this analysis revealed the same dominant single factor as the earlier principal components analysis. The two, three and four factor solutions again used SMC. In steps two through four, promax rotation was specified yielding both varimax (orthogonal) and oblique rotations. In the discussion which follows, the varimax rotation results are used to maintain maximum comparability with the Minnesota sample. The two-factor solution with varimax rotation is illustrated in Figure 1. The three-factor solution with varimax is illustrated in Figure 2.

| Item | Factor One Correlation | Factor 2 Correlation |
|----------------------------------|------------------------|----------------------|
| 35 Decision making | 0.76 | 0.36 |
| 28 Team building | 0.74 | 0.36 |
| 34 Ideological beliefs | 0.72 | 0.36 |
| 23 Motivates others | 0.71 | 0.36 |
| 24 Networking | 0.70 | 0.34 |
| 33 Uses appropriate lead. styles | 0.69 | 0.44 |
| 29 Coaching | 0.69 | 0.39 |
| 21 Communicating with others | 0.67 | 0.44 |
| 27 Organizing | 0.66 | 0.46 |
| 18 Personal integrity | 0.66 | 0.31 |
| 17 Committed to common good | 0.65 | 0.40 |
| 22 Sensitivity, respect | 0.65 | 0.25 |
| 20 Ethical | 0.64 | 0.39 |
| 37 Info. gathering & managing | 0.64 | 0.44 |
| 25 Planning | 0.64 | 0.49 |
| 36 Problem solving | 0.61 | 0.50 |
| 31 Time management | 0.60 | 0.40 |
| 26 Delegating | 0.58 | 0.49 |
| 19 Intelligent, pract. judgement | 0.58 | 0.50 |
| 03 Adaptable, open to change | 0.45 | 0.43 |
| 30 Conflict management | 0.45 | 0.43 |
| 10 Willing to accept respon. | 0.33 | 0.68 |
| 12 Enthusiastic, optimistic | 0.40 | 0.64 |
| 04 Visionary | 0.32 | 0.63 |
| 05 Tol. ambiguity, complex. | 0.22 | 0.62 |
| 08 Assertive, initiating | 0.28 | 0.62 |
| 09 Confident, self accepting | 0.40 | 0.60 |
| 06 Achievement oriented | 0.38 | 0.59 |
| 02 Insightful | 0.36 | 0.59 |
| 01 Energetic with stamina | 0.36 | 0.57 |
| 11 Persistent | 0.29 | 0.57 |
| 16 Emotionally balanced | 0.39 | 0.56 |
| 32 Stress management | 0.45 | 0.56 |
| 15 Courageous, risk-taker | 0.30 | 0.55 |
| 14 Dependable, reliable | 0.48 | 0.55 |
| 07 Accountable | 0.48 | 0.49 |
| 13 Tolerant of frustration | 0.28 | 0.46 |

Figure 1: Two Factor Solution

| Item | Factor One Correlation | Factor Two Correlation | Factor Three Correlation |
|-----------------------|---------------------------|---------------------------|-----------------------------|
| 35 Decision making | 0.75 | 0.29 | 0.31 |
| 27 Organizing | 0.67 | 0.39 | 0.29 |
| 33 Leadership style | 0.66 (s) | 0.37 | 0.34 |
| 29 Coaching | 0.66 (s) | 0.32 | 0.33 |
| 28 Team building | 0.64 | 0.28 | 0.44 |
| 37 Info. managing | 0.62 | 0.37 | 0.31 |
| 36 Problem solving | 0.62 | 0.44 | 0.27 |
| 26 Delegating | 0.59 | 0.43 | 0.26 |
| 23 Motivating oth. | 0.59 (s) | 0.29 | 0.45 |
| 34 Ideology | 0.58 (s) | 0.28 | 0.48 |
| 31 Time man. | 0.58 | 0.34 | 0.29 |
| 25 Planning | 0.57 | 0.42 | 0.38 |
| 21 Communication | 0.55 (s) | 0.36 | 0.45 |
| 24 Networking | 0.55 | 0.27 | 0.48 |
| 19 Intell. pract judg | 0.54 (s) | 0.44 | 0.32 |
| 30 Conflict man. | 0.54 (s) | 0.38 | 0.11 |
| 10 Acpt. Respon. | 0.39 | 0.65 | 0.14 |
| 12 Enthus, Optimis | 0.36 | 0.59 | 0.29 |
| 08 Assertive, Ini. | 0.35 | 0.59 | 0.11 |
| 05 Tol. Ambiguity | 0.16 | 0.59 (s) | 0.26 |
| 04 Visionary | 0.23 | 0.59 | 0.33 |
| 09 Confident | 0.36 | 0.55 | 0.28 |
| 02 Insightful | 0.30 | 0.55 | 0.30 |
| 06 Achv. Oriented | 0.32 | 0.55 | 0.31 |
| 11 Persistent | 0.32 | 0.54 | 0.15 |
| 01 Energetic, stam. | 0.22 | 0.53 | 0.40 |
| 15 Risk taker | 0.29 | 0.52 | 0.19 |
| 16 Emo. balanced | 0.30 | 0.52 (s) | 0.34 |
| 32 Stress man. | 0.43 | 0.51 (s) | 0.26 |
| 14 Depen. Relia. | 0.32 | 0.49 (s) | 0.45 |
| 13 Tol. of Frust. | 0.13 | 0.42 (s) | 0.37 |
| 22 Sens., respect | 0.34 | 0.17 | 0.66 |
| 17 Com. to com. gd. | 0.39 | 0.32 | 0.63 |
| 20 Ethical | 0.39 | 0.31 | 0.61 |
| 18 Pers. integrity | 0.42 | 0.23 | 0.59 |
| 03 Adaptable | 0.19 | 0.37 | 0.57 |
| 07 Accountable | 0.28 | 0.43 | 0.51 |

Figure 2: Three-Factor Solution

(s) = Social on Liang Analysis

The two factor solution was conducted to examine the viability of earlier assumptions of project staff that self-assessed leadership attributes would tend to be either (1) personal characteristics that predispose one to leadership or are correlated with leadership and (2) management types of actions or abilities that tend to be associated with successful leadership. The two-factor solution proved to be reasonably compatible with this conceptualization. The items loading primarily on the first factor (correlations of items with factors indicated in Figure 1) led to naming this factor "Management Skills." Several items, however, such as personal integrity, committed to the common good, and ethical would seem more compatible with the second factor which was named "Personal Characteristics." Also, five items had roughly equivalent correlations with both factors and could not be clearly associated with a single factor.

The three factor solution was conducted primarily to examine similarity with the earlier Liang analysis. Figure 2 indicates that the three derived factors could easily be assigned the same names as used by Liang (1990). This exploratory analysis, however, revealed one clear difference. The Liang analysis indicated that the greatest percent of variance was accounted for by the Social Skills and Characteristics factor (61.7%). Also, the Liang analysis indicated the second largest amount of variance was accounted for by the Personal Characteristics factor (5.6%) and the least by the Management Skills factor (3.0%). In the present three-factor solution, the greatest amount of variance (eliminating variance attributable to all other factors) was accounted for by the Management Skills factor (16.1%), with the second highest variance attributable to the Personal Characteristics factor (13.80%) and the least to the Social Skills factor (12.95%). A number of items primarily associated with the Management Skills factor in the present analysis were just as clearly associated with the Social Skills and Characteristics factor in the Liang sample (items indicated by "S" in Figure 2). Also, several items on the Personal Characteristics factor in the present analysis were most clearly associated with the Social Skills and Characteristics factor in the Liang sample (also indicated by "S" in Figure 2).

The findings of this exploratory analysis can at best be labeled "interesting." It should be noted that the present analysis was of self-ratings in a workshop setting by individuals with widely varying leadership experience; whereas, the Liang analysis was on other-ratings of persons already in recognized leadership positions in education. Also, the preliminary principal components analysis indicates that the present self-rating instrument used with this population is dominantly single-factor in nature. It does, however, raise some interesting questions as to whether the apparently different balance between factors is related to differences between self and other expectations regarding leadership, or to possible regional or cultural differences in what are perceived to be important components of leadership.

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APPENDIX A

Five-state Program Analysis

Table A-1

Gender
n=812

| Group | n | % |
|--------|-----|------|
| Male | 307 | 37.8 |
| Female | 505 | 62.2 |

Table A-2

Education Achievement
n=804

| Group | n | % |
|--|-----|------|
| An earned doctorate | 27 | 3.4 |
| A master's degree | 92 | 11.4 |
| Graduate level course work, but not a degree program | 37 | 4.6 |
| A bachelor's degree | 77 | 9.6 |
| An associate degree | 35 | 4.4 |
| College level course work, but no degree earned | 101 | 12.6 |
| A vocational, trade, or apprenticeship program | 29 | 3.6 |
| A high school diploma or GED certificate | 106 | 13.2 |
| Less than a high school diploma | 300 | 37.3 |

Five-state Program Analysis

Table A-3

Marital Status

n=809

| Group | n | % |
|---|-----|------|
| Married and living with spouse | 339 | 41.9 |
| Divorced, separated, or spouse deceased | 138 | 17.1 |
| Single, never married | 330 | 40.8 |
| Other | 2 | 0.2 |

Table A-4

Age Range

n=811

| Group | n | % |
|--------------|-----|------|
| 25 and under | 268 | 33.0 |
| 26-30 | 31 | 3.8 |
| 31-40 | 153 | 18.9 |
| 41-50 | 150 | 18.5 |
| 51-60 | 91 | 11.2 |
| 61 and over | 118 | 14.5 |

Five-state Program Analysis

Table A-5

Race/Ethnicity
n=803

| Group | n | % |
|--|-----|------|
| Black/African American (non-Hispanic origin) | 773 | 96.3 |
| American Indian or Alaskan Native | 3 | 0.4 |
| White (non-Hispanic origin) | 18 | 2.2 |
| Asian/Pacific Islander | 8 | 1.0 |
| Hispanic | 1 | 0.1 |

Table A-6

Location of Residence
n=799

| Group | n | % |
|------------|-----|------|
| Rural | 198 | 24.8 |
| Small town | 420 | 52.6 |
| Suburban | 88 | 11.0 |
| Urban | 93 | 11.6 |

Five-state Program Analysis

Table A-7

No. of Children
n=503

| Group | n | % |
|--------------|-----|------|
| One | 91 | 18.1 |
| Two | 134 | 26.6 |
| Three | 120 | 23.9 |
| Four | 58 | 11.5 |
| Five | 30 | 6.0 |
| Six | 19 | 3.8 |
| Seven | 17 | 3.4 |
| Eight | 12 | 2.4 |
| Nine or more | 16 | 3.2 |
| None | 6 | 1.2 |

Five-state Program Analysis

Table A-8

Income
n=469

| Group | n | % |
|-------------------|-----|------|
| Does not apply | 2 | 0.4 |
| \$10,000 or below | 111 | 23.7 |
| \$10,001-\$20,000 | 147 | 31.3 |
| \$20,001-\$30,000 | 107 | 22.8 |
| \$30,001-\$40,000 | 70 | 14.9 |
| \$40,001-\$50,000 | 21 | 4.5 |
| \$50,001-\$60,000 | 7 | 1.5 |
| Over \$60,000 | 4 | 0.9 |

Table A-9

Employment Status

| Group | Yes | | No | |
|---|-----|------|----|------|
| | n | % | n | % |
| Full-time student n=37 | 5 | 13.5 | 32 | 86.5 |
| Full-time homemaker (not working outside the home) n=51 | 23 | 45.1 | 28 | 54.9 |
| Retired n=71 | 42 | 59.2 | 29 | 40.8 |

Five-state Program Analysis

Table A-10

Occupational Category
n=341

| Group | n | % |
|---|----|------|
| Education-B.S. or higher | 95 | 27.9 |
| Education-no degree required | 2 | 0.6 |
| Human services | 45 | 13.2 |
| Licensed health care-B.S. | 9 | 2.6 |
| Licensed health care-no degree | 10 | 2.9 |
| Skilled workers | 21 | 6.2 |
| Less skilled workers | 21 | 6.2 |
| Law enf./public safety | 1 | 0.3 |
| Legal professional | 5 | 1.5 |
| Legal technical | 3 | 0.9 |
| Clerical/secretarial | 37 | 10.9 |
| Technical jobs-B.S. | 5 | 1.5 |
| Personal services | 2 | 0.6 |
| Sales-licensed/bonded | 1 | 0.3 |
| Sales-retail/wholesale | 17 | 5.0 |
| Agricultural-B.S. required | 1 | 0.3 |
| Supervisors | 3 | 0.9 |
| Owner small bus. or farm-\$100,000 or higher | 1 | 0.3 |
| Owner small bus. or farm-lower than \$100,000 | 40 | 11.7 |
| Accountant/bank officer | 1 | 0.3 |
| Clergy | 12 | 3.5 |
| Mortician | 2 | 0.6 |
| Armed Srves-Officer | 2 | 0.6 |
| Armed Srves-non-com. & enlisted | 4 | 1.2 |
| Performing Arts/entertainment | 1 | 0.3 |